
High Anxiety and Biotechnology: Who's Buying, Who's Not, and Why?— An Overview

STEVEN G. PUEPPKE

*University of Illinois
Urbana, IL*

The topic of NABC's annual meeting, held in Chicago on May 22–24, 2001, was “High Anxiety and Biotechnology: Who's Buying, Who's Not, and Why?” The organizers had some anxiety of their own when they realized that the meeting was a likely target for anti-GMO protestors, and these groups did appear on the first day of the conference. But all was peaceful, and the street theater even did us a favor by attracting the media. NABC 2001 participants provided several media interviews, which were broadcast both locally and on an agricultural television network.

The meeting used an optical metaphor to represent the divergent viewpoints of participants in the public GMO debate. Each plenary session examined the subject as focused through a different kind of lens. This centered the GMO debate on the context of its participants and emphasized that not all judge the issue from a single vantage point.

LESSONS TO LEARN FROM

Five plenary speakers set the stage and established perspective for the meeting. Michael Jacobson from the Center for Science in the Public Interest, pointed out the potential benefits of agricultural biotechnology, not just for farmers, but also for consumers and the environment. He reminded the audience that public outcry has brought biotechnology to a crossroads, and he cautioned against extreme views on either side. Those who claim that all applications of agricultural biotechnology are bad fall into one kind of trap, but those who assert that biotechnology will provide all the answers fall into another. Jacobson believes that objective parties, including universities and state and federal agencies, ought to be doing more research on behalf of agricultural producers.

Napoleon Juanillo from the University of Illinois pointed out gaps between the way that scientists tell their story and the expectations of the public.

Researchers avoid eloquence and speak plainly. They are cautious, hesitant to extrapolate, and generally unprepared to deliver sound bites. Increasingly, though, the public is interested in the subjective and in nuance. Is agricultural biotechnology moral? Is it fair, or does it exploit? Does it cause society to lose control? People expect these issues to be addressed, and it is especially difficult for scientists to do so.

We heard about pasteurization as a case study in new technology and the complications that surround technological change. Joseph Hotchkiss from Cornell University surprised many in the audience by reminding us that the technology of heating milk to kill bacteria—a benign process by today's standards—was vigorously resisted in the late nineteenth and early twentieth centuries. As a consequence, infant mortality remained high for decades after the invention of a process to make milk safe. This historical lesson was sobering, especially to those who view biotechnology as an important tool to combat world hunger.

Nancy Millis from the University of Melbourne challenged participants with a thoughtful analysis of risk and its management. Who decides which risks are acceptable and which are not? She reminded us that scientists were allowed to make these decisions in the past, but that society now demands a voice in the process. One of her key take-home messages is that perceptions of hazard must be taken seriously. Australia's experience with GM crops provided several examples of governmental activities to inform both growers and the general public.

C. S. Prakash from Tuskegee University told the story of agricultural biotechnology and its historical roots. The continuum of agricultural improvements over the centuries—beginning with simple selection and now involving biotechnology—represents a success story and a source of pride for many in the audience. But it is difficult for the public to appreciate either the historical context or the future potential for agricultural biotechnology. Instead, people want the unattainable: zero risk. Consumer perception of risk with foods is no different from that with any other kind of change, but this fact is small comfort for those seeking to educate the general public.

INFLUENCING THE CONSUMER LENS

Session II helped us to understand how consumer attitudes can be influenced. Kerry Smith from North Carolina State University provided lessons on the basis of his experience with health risks. One of these, radon gas, can seep into home basements and represents an involuntary risk. If local governments want people to monitor for this gas, impersonal campaigns with notices and posters are ineffective. But as soon as community leaders become involved in educational efforts, citizens begin to respond. The message for biotechnology: Continuous, personalized involvement can make a difference. Efforts to educate on the hazards of smoking provide another perspective: Be honest, build trust, and be

aware of the fact that people become very concerned when the results of the choices they make are irreversible.

Mark Sagoff from the University of Maryland showed us evidence that food processors deliberately and broadly offer food as fantasy, with liberal use of natural in advertising. This was an important message to those who sometimes feel that consumers are conditioned to fantasize only about the products of biotechnology. Sagoff convulsed the audience with colorful Shakespearean imagery of the concept of natural.

DIVERGENT LENSES OF STAKEHOLDERS

The most all-encompassing session emphasized the rich diversity of participants in the agricultural biotechnology debate. Dave Erickson, a northwest Illinois farmer, gave us a poignant first-person account of agricultural biotechnology from the viewpoint of a midwestern producer of corn and soybean. This perspective is often overlooked by consumers and by those interested in trade and public policy. To farmers, though, biotechnology is primarily a management tool that will be accepted if it makes economic sense.

Anatole Krattiger from *bioDevelopments* LLC considered the potential for biotechnology to solve problems in the developing world, but with several unique perspectives on globalization. One is the sheer speed with which the technology has been advanced by the private sector and adopted in the developed world. This has caught scientists off guard and mystified some of those interested in improving the human situation. Application of agricultural biotechnology to the developing world has challenged our concepts of intellectual property and the perceived role of public research establishments dedicated to fighting hunger. Krattiger advocates a novel “privic” approach that involves both the private and public sectors.

Tony Van der haegen’s after-dinner keynote address offered a view from the European Union, one that underscored the importance of food safety to European consumers who enjoy abundant food supplies and thus the luxury to make food choices. We were reminded that Americans must understand the psychological undercurrents to the debate in Europe. Europeans are more cautious about new technology and the influence of large corporations. And, unlike Americans, they have recently experienced food and health scandals involving mad cow disease and tainted blood supplies that have eroded trust in scientists and regulators. Lack of understanding between the United States and Europe has already disrupted trade. Ongoing thorny debates about regulatory approval and labeling are not likely to be settled in the near future. However, Van der haegen projected that Europe will eventually accept biotechnology-based foods.

Dirk-Arie Toet from Nestlé gave us a personalized and industry view from the European standpoint. Although Americans often view the European situation pessimistically, Toet pointed out that politicians are again speaking publicly

about biotechnology. He summarized plans for a new European framework for discussions, particularly as they apply to tracing and labeling.

Gary Comstock from Iowa State University, who sometimes used audience members as examples in thought games, helped us to organize our ethical thoughts about agricultural biotechnology. The audience learned to distinguish factual assertions from value-laden, normative assertions—and extrinsic objections to the introduction of biotechnology from intrinsic objections that the process itself is in some way harmful.

Susan Harlander from BIORational Consultants was unable to attend the meeting. Bruce Chassy from the University of Illinois summarized her perspective from the standpoint of the food industry. On the one hand, the United States Food and Drug Administration considers GM crops to be “substantially equivalent” to their traditional counterparts. This means that they can be managed simply as commodities in this country. On the other hand, various sorts of labeling are required in many other countries, and so food companies doing business worldwide must comply with various sorts of regulations. Consequently, food companies have removed GM ingredients in countries with mandatory labeling requirements. These conflicts have led to turmoil in the marketplace. Harlander pleads for harmonization of the regulatory process across international boundaries.

At the final lunch-time session, Stanley Abramson from Arent Fox Kintner Plotkin & Kahn, PLLC, in Washington, DC, shared his recommendations for improving product stewardship and federal regulations.

FINAL REMARKS

NABC 2001 was not just about plenary sessions. As a prelude to the traditional annual conference workshops, we were treated to a rollicking great debate that was moderated by NABC President Ralph Hardy. Featured were two unnamed members of the organizing committee. One was in white lab coat, scrolling really bad slides and pontificating about technology. The other, who was deeply buried under a fright wig, took the role of protestor. The dialogue ran its expected course and ended with hotel security “escorting” the activist from the room.

Tom Hoban’s “Hot Topics and Hot Hors D’Oeuvres” provided another change of pace. Tom shared some of his research data on consumer perceptions of biotechnology and then invited meeting participants to comment. The atmosphere was informal and cozy, the subject matter was challenging, and the wine and food worked their magic. This session ended, not when Tom sat down, but when the hotel staff turned off the lights.

“High Anxiety,” which attracted more than 200 scientists and leaders in the agricultural and food arenas, was organized by the University of Illinois and Iowa State University. The annual NABC meeting always attracts a diversity of speakers and speaking styles, but rarely have the participants had so much fun, mixing laughter with challenging thoughts on agricultural biotechnology.